

IN THE CLAIMS:

[Claim 1] A method of fabricating carbon nanotube bundles which first are vacuum-sealed in a quartz tube. The above described assembly is then heated to the temperature range of 900°C to 1,300°C, which makes the assembled bundle red-hot and soft. When the assembly is quenched in air, the quartz tube is simultaneously or sequentially extended in the longitudinal direction of the carbon nanotubes sample. Thereby, the cross-section of the carbon nanotube bundle is reduced to 50 – 100 nm, and the cross-section of the surrounding quartz tube is reduced to 0.1 mm in diameter or less.

[Claim 2] The resultant, fabricated, string-like product is a composite material of carbon nanotubes sealed in quartz which encompasses the carbon nanotube bundles due to the extension, or drawing process, that occurs while the assembly is thermally quenched.

[Claim 3] The carbon nanotube bundles of Claim 2 consist of 100 to 1000 nanotubes as a result of heat treatment and longitudinal expansion, so that the carbon nanotube bundle diameter is reduced to 1 micron or less.

[Claim 4] The carbon nanotubes are sealed in vacuum and expanded longitudinally while they are quenched until the quartz O.D. is reduced to 0.1 mm or less, whereas the carbon nanotube bundles in Claim 2 have the cross-section of 50 to 100 mm.